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P.02/02

UNITED STATES
PATENT AND
TRADEMARK OFFICE

JUNE 26, 2003

PTAS

NORTHROP GRUMMAN CORPORATION
TERRY J. ANDERSON
1840 CENTURY PARK EAST, M/S 30/110-31
LOS ANGELES, CA 90067-2199

Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
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Terry J. Anderson



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UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF
THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS
AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER
REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE
INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA
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FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY
CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723.
PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE,
ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY.
SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 02/12/2003

REEL/FRAME: 013751/0849
NUMBER OF PAGES: 117

BRIEF: ASSIGNMENT OF ASSIGNEE'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNEE:
TRW, INC. N/K/A NORTHROP GRUMMAN
SPACE AND MISSION SYSTEMS
CORPORATION, AN OHIO CORPORATION

DOC DATE: 01/22/2003

ASSIGNEE:
NORTHROP GRUMMAN CORPORATION
1840 CENTURY PARK EAST
LOS ANGELES, CALIFORNIA 90067-2199

SERIAL NUMBER: 05860421
PATENT NUMBER:

FILING DATE: 12/05/1977
ISSUE DATE:

SERIAL NUMBER: 06333534
PATENT NUMBER:

FILING DATE: 12/22/1981
ISSUE DATE:

SERIAL NUMBER: 06376435
PATENT NUMBER:

FILING DATE: 04/08/1982
ISSUE DATE:

SERIAL NUMBER: 06376432
PATENT NUMBER:

FILING DATE: 04/08/1982
ISSUE DATE:

** TOTAL PAGE.02 **

Form PTO-1595 (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002)		RECORDATION FORM COVER SHEET		U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office			
PATENTS ONLY							
↓ ↓ ↓ ↓ ↓ ↓ ↓							
To the honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.							
<p>1. Name of conveying party(ies): <u>TRW, Inc. n/k/a Northrop Grumman Space and Mission Systems Corporation, an Ohio Corporation</u></p> <p>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other: _____</p> <p>Execution Date: <u>January 22, 2003</u></p>			<p>2. Name and address of receiving party(ies) Name: <u>Northrop Grumman Corporation</u> Internal Address: _____ Street Address: <u>1840 Century Park East</u> City: <u>Los Angeles</u> State: <u>CA</u> Zip: <u>90067-2199</u> Country: <u>USA</u></p> <p>Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>				
<p>4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: _____</p> <table border="0"> <tr> <td>A. Patent Application No.(s) See attached Sheets - Patent Applications</td> <td>B. Patent No.(s) See attached Sheets - Patents</td> </tr> </table> <p>Additional numbers attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>						A. Patent Application No.(s) See attached Sheets - Patent Applications	B. Patent No.(s) See attached Sheets - Patents
A. Patent Application No.(s) See attached Sheets - Patent Applications	B. Patent No.(s) See attached Sheets - Patents						
<p>5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Terry J. Anderson</u> Internal Address: _____ <u>Northrop Grumman Corporation</u> Street Address: <u>1840 Century Park East, M/S 30/110/31</u> City: <u>Los Angeles</u> State: <u>CA</u> Zip: <u>90067-2199</u></p>			<p>6. Total number of applications and patents involved: <u>1483</u></p> <p>7. Total fee (37 CFR 3.41). \$ <u>59,320.00</u></p> <p><input type="checkbox"/> Enclosed</p> <p><input checked="" type="checkbox"/> Authorization to charge to the deposit account</p> <p>8. Deposit account number: <u>14-1326</u></p> <p>(Attach duplicate copy of this page if paying by deposit account)</p>				
DO NOT USE THIS SPACE							
<p>9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i> Name of Person Signing: <u>Terry J. Anderson</u> Signature: <u>Terry J. Anderson</u> Date: <u>Feb 12, 2003</u> Total number of pages including cover sheet, attachments, and documents: <u>118</u></p>							

118 documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

**ASSIGNMENT OF
PATENTS AND PATENT APPLICATIONS**

WHEREAS, TRW Inc., now known as Northrop Grumman Space and Mission Systems Corp., a corporation created and existing under the laws of the State of Ohio ("Assignor"), is either the sole and exclusive owner or has an ownership interest in all of the right, title and interest in the patents (including any and all continuations-in-part, continuations, provisionals, statutory invention registrations, divisions, substitutes, reissues, reexaminations, or extensions thereof) relating to Assignor's businesses, including without limitation, the United States Patents specified in Exhibit A, the foreign patents/applications specified in Exhibit B and the inventions disclosed therein and covered thereby (collectively referred to as the "Patent Property");

WHEREAS, Northrop Grumman Corporation, a Delaware corporation ("Assignee"), is desirous of acquiring all of the right, title and interest of TRW Inc. in and under the Patent Property;

WHEREAS, on December 11, 2002, Richmond Acquisition Corp. ("Richmond"), a wholly-owned subsidiary of Assignee, was merged with and into Assignor (the "Northrop/TRW Merger") pursuant to that certain Agreement and Plan of Merger, dated June 30, 2002 (the "Northrop/TRW Merger Agreement");

WHEREAS, pursuant to the Northrop/TRW Merger Agreement, Assignor, as the surviving corporation, became a wholly-owned subsidiary of Assignee;

WHEREAS, on December 18, 2002, Assignor filed a Certificate of Amendment pursuant to which it changed its name from TRW Inc. to Northrop Grumman Space and Mission Systems Corp.; and

WHEREAS, consistent with the Northrop/TRW Merger, Assignor desires to assign to Assignee all of Assignor's right, title, and interest in and to the Patent Property.

NOW, THEREFORE, in consideration of the foregoing premises, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the covenants and agreements in this Assignment, the Assignor and Assignee hereby agree as follows:

1. Grant. Assignor does hereby sell, transfer, convey, assign and deliver to Assignee all of the Assignor's right, title, and interest in and to the Patent Property, all other applications for letters patent relating thereto which have been or shall be filed in the United States, its territorial possessions and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, acts, treaties, including all future conventions, unions, agreements, acts, and treaties, the same to be held and enjoyed by Assignee for Assignee's own use and enjoyment, and for the use and enjoyment of Assignee's successors, assigns and other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made; together with all claims for damages by reason of past infringements of the Patent Property, along with the right to sue for injunctive relief and collect damages for the use and benefit of Assignee and

Assignee's successors, assigns and other legal representatives, in the United States, its territorial possessions and all foreign countries, to the end of the term or terms for which letters patent are or may be granted or reissued as fully and entirely to the same extent as the same would have been held and enjoyed by Assignor.

2. Further Assurances. Each party will, without additional consideration, take such further actions and execute promptly such further documents as are necessary to effect and record the above assignment, including any actions or documents required by the applicable registrar to document the transfer herein or as may be necessary to protect, secure and vest good, valid and marketable title to the Patent Property and related rights in Assignee.

3. Recording of Assignment. Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States, and any officer of any country or countries foreign to the United States, whose duty it is to issue Patent Property or other evidence or forms of intellectual property protection or applications as, to issue the same to Assignee and Assignee's successors, assigns and other legal representatives in accordance with the terms of this instrument.

IN TESTIMONY WHEREOF, Northrop Grumman Space and Mission Systems Corp. has caused these presents to be signed by its duly authorized representative, this 2nd day of January, 2003.

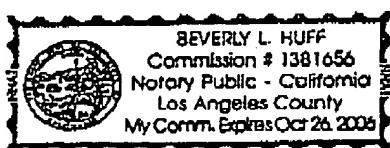
ASSIGNOR:

NORTHROP GRUMMAN SPACE AND
MISSION SYSTEMS CORP. (FORMERLY
KNOWN AS TRW INC.)

By: Kathleen M. Salmas
Kathleen M. Salmas
Secretary

State of California
County of Los Angeles

On 1-22-03 before me, Beverly L. Huff, Notary Public
personally appeared Kathleen M. Salmas, personally known to me - OR -
proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged to me that he/she executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal,
Beverly L. Huff
Signature of Notary Public

IN TESTIMONY WHEREOF, Northrop Grumman Corporation has caused these presents to be signed by its duly authorized representative, this ____ day of _____, 2003.

ASSIGNEE:

NORTHROP GRUMMAN CORPORATION

By: _____

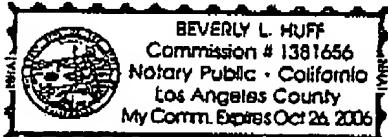
John H. Mullan
Corporate Vice President and Secretary

State of California
County of Los Angeles

On 1-22-03 before me,

Beverly L. Huff, Notary Public

personally appeared John H. Mullan, personally known to me - OR - proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal,

Beverly L. Huff
Signature of Notary Public